

USSR

UDC 621.365.82

DORONIN, V. G., and OSTAPChENKO, Ye. P.

"Necessary and Sufficient Conditions for the Formation of an Inversion in Gas Lasers"

Tr. Ryazan. Radiotekh. in-ta (Proceedings of the Ryazan' Radiotechnical Institute, No 37, pp 18-27, RZh-Fizika, No 9, Sep 73, Abstract No 9D716

Translation: The conditions for the formation of a population inversion in a gas laser are examined with the aid of radiation in other channels of oscillation. The possibility of creating an inversion by optical pumping with oscillation or external radiation corresponding to transitions in these channels is demonstrated. Conditions are found under which additional gas has a positive effect on obtaining an inversion in a gas laser.

P.Sh.

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USSR

UDC 621.365.82

DORONIN, V. G., and OSTAPChENKO, Ye. P.

"The Interaction of Modes in a Gas Laser"

Tr. Ryazan, Radiotekhn. in-ta (Proceedings of the Ryazan' Radiotechnical Institute, No 37, 1972, pp 11-18 RZh-Fizika, No 9, Sep 72, Abstract No 9D713

Translation: The interaction of axial modes of a gas laser is studied on the basis of the solution of the kinetic equation, taking into account the movement of atoms and their elastic collision. Conditions are found for the existence of various numbers of oscillating modes, and the effect of pressure and the coefficient of loss on their number is studied. P. Sh.

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USSR

UDC: 621.373:530.145.6

DORONIN, V. G.

"Nonoptical Probabilities of Decay of Neon Laser Levels"

Elektron. tekhnika. Nauchno-tekhn. sb. Gazorazryadn. pribory (Electronic Technology. Scientific and Technical Collection. Gas-Discharge Devices), 1970, vyp. 2(18), pp 11-15 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11D273)

Translation: The approximation of V. A. Fabrikant and S. T. Dravin for the excitation and ionization function respectively in the case of Maxwellian energy distribution of electrons was used to find the maximum values of non-optical probabilities of decay of neon levels $3s_2$, $3p_4$, $2s_2$, $2p_4$ and $1s$ under helium-neon laser conditions, and a comparison is made with spontaneous decay probabilities. Resumé.

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USSR

UDC 669.15.018.8(088.8)

FEDOTOVA, L. S., ALEKSEYENKO, M. F., POTAK, YA. M., BELYAKOVA, V. A., ORZHEKH-
OVSKIY, YU. F., SHEPETOV, V. A., TOPILIN, V. V., DORONIN, V. M., KLYUYEV,
M. M.

"Stainless Steel"

USSR Author's Certificate No 276434, Filed 25 Jul 68, Published 13 Oct 70
(from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4I637P)

Translation: A steel for operation at temperatures up to 600° is proposed with the following composition (in %): C 0.05-0.09, Cr 10.5-12, Ni 1.4-1.8, Mo 0.35-0.5, Nb 0.06-0.15, V 0.15-0.25, Si < 0.6, Mn < 0.6, Ce < 0.02. The ratio of the alloying elements satisfies the formula $0.68\% \text{ Cr} + (\% \text{ Mo} + \% \text{ V} + \% \text{ Si}) + 0.5\% \text{ Nb} - (30\% \text{ C} + \% \text{ Ni} + 0.5\% \text{ Mn}) < 6.6$. After quenching from 1,000° and tempering at 570°, at 20, 500, and 550° the steel has σ_B of 120, 70, and 55 kg/mm², σ_T of 100, 75, and 55 kg/mm², δ of 12% and ψ of 60-65%, respectively; σ_{100}^{500} and σ_{100}^{550} are 56 and 32 kg/mm², respectively.

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DORONIN, V. N.

57008

6.73

V-7. OBTAINING BORON PHOSPHIDES FROM THE GAS PHASE

Article by B. A. Savel'yev, V. N. Doronin, V. A. Krenov, V. I. Yevdokimov, Moscow; Novosibirsk, Ill. Sibirskiy po Prirodozemle Kuznetskiy Poluprovodnikoviy Kiselev, I. Plensk. Russian, 12-17 June, 1972, p 59]

On the basis of the results of the thermodynamic analysis of the reactions of joint reduction of boron and phosphorus halogenides and also the experimental study of the processes of reducing boron trichloride and phosphorus trichloride with hydrogen, an estimate was made of the conditions of obtaining boron phosphides from the gas phase.

A study was made of the dependence of the deposition rate of the boron phosphides on the temperature (800-1400 degrees) and the ratio of the phosphorus trichloride to boron trichloride from 1 to 5 (with a constant hydrogen flow rate and feed rate of the reaction mixture).

The conditions of obtaining monocrystalline films of boron phosphides with deposition on silicon are defined.

Some electrophysical properties of the boron phosphide films were investigated.

1/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--THEORY OF ISOTOPE SEPARATION DURING ELECTRODIALYSIS USING ION
EXCHANGE MEMBRANES -U-
AUTHOR-(04)-TIKHOMIROV, I.A., DURONIN, V.T., VERGUN, A.P., LARIONOV, V.V.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 751-5
DATE PUBLISHED-----70
SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, CHEMISTRY
TOPIC TAGS--ISOTOPE SEPARATION, ELECTRODIALYSIS, ION EXCHANGE MEMBRANE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1629 STEP NO--UR/0076/70/044/003/0751/0755
CIRC ACCESSION NO--AP0125251
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125251

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SEPN. OF 2 ISOTOPIC IONS IS TREATED AS IF OCCURRING IN 2 STEPS, I.E. BY EQUILIBRIUM DISTRIBUTION OF THE MIXT. THROUGHOUT THE ELECTRODIALYZER AND SEPN. OF COMPONENTS WITHIN THIS GENERAL DISTRIBUTION PATTERN. THE FINAL FORM OF THE EQUATION DESCRIBING PARTITIONING OF A BINARY SYSTEM OF ISOTOPES IN ELECTRODIALYZERS USING ION EXCHANGER MEMBRANES IS GIVEN.
FACILITY: TOMSK. POLITEKH. INST., TOMSK, USSR.

UNCLASSIFIED

USSR

UDC 532.596+551.46.06.8

DORONIN, YU. P.

"Method of Calculating the Degree of Packing and Drift of Ice"

Tr. Arkt. i Antarkt. n.-i. in-ta (Works of the Arctic and Antarctic Scientific Research Institute), 1970, No 291, pp 5-70 (from RZh-Mekhanika, No 10, Oct 70, Abstract No 10 B485)

Translation: In this article the problem of wind drift of ice is solved considering the interaction of ice floes among each other. Here, in contrast to other papers in which a similar problem was solved, the effective coefficient of friction between the ice floes is considered variable depending on the degree of packing of the ice. The differential equations obtained were solved numerically. In the second part of the paper the same problem was solved considering the effect of heat exchange with water and air on the thickness and degree of packing of the ice. The system of equations obtained was solved by the iteration method on the Ural-2 computer. As a result, corrections were found for the drift velocity resulting from thawing of the ice. At the end
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DORONIN, YU. P., Tr. Arkt. i Antarkt. n.-i. in-ta, 1970, No 291, pp 5-70

of the paper there are maps on which the calculated (considering and not considering the thawing of the ice) and actual ice distributions in the Kara Sea are compared. The maps confirm the necessity of considering thermal factors.

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UDC: 669.018.45:548.55

SAVITSKIY, Ye. M., BURKHANOV, G. S., SHNYREV, G. D., DORON'KIN, Ye. D.,
SERGEYEV, N. N.

"Use of Plasma Heating for Growth of Single Crystals of Refractory Metals"

Moscow, Tsvetnyye Metally, No 12, Dec 73, pp 40-41.

Abstract: Plasma heating is used to intensify metallurgical processes and create new methods for production and refining of metals. The method of cathode-ray zone melting allows pure, low-defect single crystals of various metals to be produced, but cannot be used for large single crystals, since the diameter is limited by surface tension. This has required the development of another method for production of single crystals of refractory metals, allowing the production of large single crystals and their purification of carbon. This article describes a method for producing large single crystals of tungsten and molybdenum using plasma-arc heating. The productivity of the method is several times higher than that of cathode ray zone melting. It is economically competitive with vacuum-arc melting, but produces higher-quality tungsten crystals. The quality of the tungsten crystals is approximately equal to those produced by cathode ray zone melting.

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USSR

UDC 621.382.3

DORONKIN, Ye. F. and RADISHEVSKIY, N. F.

"Using the Finite Carrier Migration Velocity in the Transistor Base for Rejactor Filtration"

Kiev, Izvestiya VUZ--Radioelektronika, vol. 14, No. 7, 1971, pp 809-814

Abstract: In connection with the search for inductanceless rejec-tor filters using distributed R-C networks in integrated circuits, this paper discusses the possibility of designing rejector filters with ordinary bipolar transistors. With a signal applied to the input of such a filter, the output voltage consists of two compo-nents with a relative phase shift depending on the frequency be-cause of the finite migration velocity of the carriers in the transistor base. When the absolute values of these two outputs are equal, a situation which can be attained through the proper choice of resistance, the transfer factor at a particular fre-quency is zero. In the analysis, it is assumed that the elec-tronic component of the transistor currents and the recombina-tion of carriers in the base can be neglected. The authors assert that their researchers have confirmed the correctness of their the-oretical findings that such filters using thick-based transistors are possible, but have temperature instabilities.

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1/2 012 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--A MANUAL ON PULSE TECHNOLOGY -U-

AUTHOR--(05)--YAKOVLEV, V.N., VOSKRESENSKIY, V.V., GENIS, A.A., DORONKIN,
YE.F., LITVINENKO, G.N.
COUNTRY OF INFO--USSR

SOURCE--A MANUAL ON PULSE TECHNOLOGY (SPRAVOCHNIK PO IMPUL'SNOY TEKHNIKE)
KIEV, TEKHNIKA. 1970, 654 PP
DATE PUBLISHED-----70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., NAVIGATION

TOPIC TAGS--ELECTROMAGNETIC PULSE, PULSE AMPLIFIER, MULTIVIBRATOR,
BLOCKING OSCILLATOR, PULSE GENERATOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1991/0567

STEP NO--UR/0000/70/000/000/0001/0654

CIRC ACCESSION NO--AM0110365

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--02OCT70
 CIRC ACCESSION NO--AM0110365
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TABLE OF CONTENTS: PREFACE 5.
 CHAPTER I LINEAR CIRCUITS 7. II FORMING LINES 71. III THE
 CORRELATION METHOD OF INVESTIGATION OF TRANSITION PROCESSES IN LINEAR
 SYSTEMS 133. IV WIDE BAND AMPLIFIERS AND PULSE AMPLIFIERS 151. V
 MULTIVIBRATORS WITH A BASIC MASTER TIME CIRCUIT 181. VI
 MULTIVIBRATORS WITH EMITTER MASTER TIME CIRCUITS 204. VII TRANSISTOR
 TRIGGERS 217. VIII TRANSISTOR BLOCKING GENERATORS 229. IX TUBE
 MULTIVIBRATORS 248. X TUBE TRIGGERS 299. XI TUBE BLOCKING
 GENERATORS 314. XII CONTROLLED GENERATORS OF SAWTOOTH VOLTAGE 344.
 XIII AUTOGENERATORS OF SAWTOOTH VOLTAGE 393. XIV GENERATORS OF
 SAWTOOTH CURRENT 447. XV PULSE GENERATORS WITH BRIDGE MASTER CIRCUITS
 473. XVI PULSE FREQUENCY DIVIDERS 491. XVII PULSE GENERATORS WITH A
 QUARTZ STABILIZATION OF THE FREQUENCY OF VIBRATIONS 525. XVIII PULSE
 GENERATORS WITH LAGGING REVERSE CONNECTION 539. XIX PULSE CIRCUITS
 ON TUNNEL DIODES 556. XX PULSE CIRCUITS ON GAS DISCHARGE INSTRUMENTS
 595. LITERATURE 637. IN A COMPACT FORM YET FULLY ARE GIVEN THE
 THEORETICAL BASES FOR THE PULSE TECHNOLOGY; EXPLAINED IS THE PHYSICAL
 ASPECT OF THE PHENOMENA; CITED ARE MANY CALCULATING FORMULAE NECESSARY
 IN DESIGNING BASIC PULSE CIRCUITS AND DEVICES AND ALSO EXAMPLES OF THEIR
 CALCULATION. A GREAT DEAL OF ATTENTION IS GIVEN TO METHODS AND DIAGRAMS
 OF STABILIZATION OF TEMPORARY PARAMETERS OF THE GENERATED IMPULSES. THE
 MANUAL IS FOR ENGINEERS AND TECHNOLOGISTS DESIGNING ELECTRO AND
 RADIOTECHNICAL EQUIPMENT FOR WIDE USE.

UNCLASSIFIED

USSR

UDC: 621.375.132

DORONKIN, Ye. F., RADISHEVSKIY, N. P.

"Calculation of a Selective Amplifier With Null RC Filter in the Feedback Circuit"

V sb. Poluprovodn. pribory v tekhn. elektrosvyazi (Semiconductor Devices in Technical Electrical Communications--collection of works), Moscow, "Svyaz", 1970, pp.35-44 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1D14)

Translation: A procedure is proposed for analyzing and calculating a selective amplifier, utilizing expansion of the transmission function of the null filter in a power series. Use of the method is illustrated on the example of an amplifier with series voltage feedback. A method is developed for comparative evaluation of different circuit modifications. Bibliography of 11 titles. Resumé.

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USSR

UDC 616.988.22-022.395.42:616-022.38

DORONTSOVA, V. A. and CHUDINOV, P. I., Sanitary Epidemiological Station of the West Siberian Railroad, Novosibirsk, and Omsk Scientific Research Institute of Infections with Natural Foci

"The Role of Artificial Protective Forest Belts Along the West Siberian Railroad in Natural Foci of Tick-Borne Encephalitis"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 40, No 3, May/Jun 71, pp 283-286

Abstract: Cases of tickborne encephalitis were observed among West Siberian Railroad workers: from 1956 to 1969, 48 cases were reported and the protective forests along the railroad were investigated. The presence of *Ixodes persulcatus* was established in the forest belts, which indicated the emergence of secondary foci of the disease. Apparently, the insect density is maintained by the domestic animals of railroad workers, as well as by small wild mammals. The species composition of small wild mammals in the artificial forests is identical to that in natural forests. Also birds serve as carriers of infected ticks. As a result of their activity, railroad workers are in constant contact with the disease vectors.

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AA0047014

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent,

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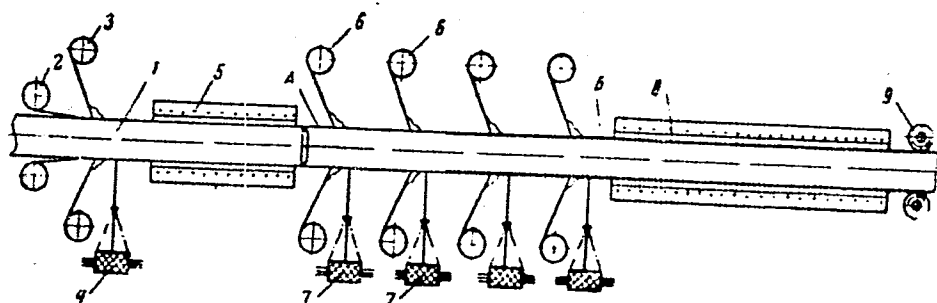
243185 REINFORCED GLASSFIBRE PLASTICS TUBE
PRODUCTION reduces the tube pull-off
force from the mandrel. Briefly, the parting
material (2) is laid along the mandrel (1) and
then wound in a thin layer of fibreglass filler
(3,4) impregnated in binder. The filler requires
no transverse stress and thus reduces the squeeze
force. The thinwalled tube formed is pushed into
the first setting chamber (5) to produce the
carrier tube A. Now the glass fibre filler (6,7)
impregnated in binder is wrapped on up to required
thickness. The final tube B enters a second sett-
ing chamber (8) and then into the puller (9).
19.5.67. as 1157203/23-5, DOROSHENKO, A.A.
(18.9.69) Bul. 16/5.5.69. Class 39a Int. Cl.
B 29d.

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AA0047014



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USSR

UDC: 8.74

DZEGELENIK, I. I., DOROSHENKO, A. N., SHIGIN, A. G.

"Diagnostic Program (Problems of Predicting Myocardial Infarct by Using Digital Computers)"

Moscow, Izbr. tr. Vses. mezhvuz. simpoz. po prikl. mat. i kibernet., Gor'kiy, 1967 (Selected Works of the All-Union Intercollegiate Symposium on Applied Mathematics and Cybernetics, Gor'kiy, 1967), "Nauka", 1973, pp 254-258 (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V693 by the authors)

Translation: A recognition system of the perceptron type is considered which is based on minimizing the mean-square error arising when the characteristic function of separable classes is approximated by a system of associative elements. The effectiveness of operation with different types of associative elements in recognition of graphic patterns is verified.

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USSR

UDC 669.15-194:669.25:669.01

ZEL'DOVICH, V. I., SAMOYLOVA, Ye. S., and DOROSHENKO, A. V. (Deceased),
Institute of Metal Physics, Ukrainian National Center of the Academy of
Sciences USSR

"Phase Transformations in the Vicalloy 1 Alloy"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 35, No 1, 1973, pp 125-133

Abstract: Phase transformations in Vicalloy 1 alloy on heating at temperatures over 500°C and on cooling were investigated by methods of dilatometric, magnetostructural, neutronographic, and X-ray-structural analyses. A complex sequence of transformations on heating of the alloy was found which includes ordering and disordering of α - and γ -phases and disproportionation of components between phases. The temperature intervals of the "fundamental" processes of $\alpha \rightarrow \gamma$ transformations and of ordering and disordering of α - and γ -phases were determined. The development of γ -phase on continuous heating of the alloy can be divided into three stages. In the temperature interval of the second stage of $\alpha \rightarrow \gamma$ transformation, an α -phase disorder takes place accompanied by an increase in volume. The sign difference of the volume effect of α -phase ordering at 400 and 700°C is explained by the decrease of the coefficient of thermal expansion when ordering. The presented schema of 1/2

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ZEL'DOVICH, V. I., et al., Fizika Metallov i Metallovedeniye, Vol 35, No 1, 1 1973, pp 125-133

phase transformations in Vicalloy 1 on continuous heating can be applied for the analysis of $\alpha \rightarrow$ transformation in other alloys on Fe-base, in which this transformation takes place with the assistance of diffusion processes. Five figures, fifteen bibliographic references.

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USSR

UDC 669.24:538.221

VALIYEV, E. Z., and DOROSHENKO, A. V., Institute of Metal Physics of the Ukrainian National Center of the Academy of Sciences USSR

"Magnetic Properties of Some Alloys of 3d-Transition Metals Near c_0 "

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 34, No 2, Aug 72, pp 433-436

Abstract: An experimental investigation was made of magnetic properties of ternary unordered Ni-Fe-Mn, binary unordered Ni-Cr, and ordered Ni-Mn alloys. The point c_0 of magnetic transformation characterizes the division between the conditions $c < c_0$ of a long-range magnetic order in the system and $c > c_0$ of absent magnetic order. The continuous change of the intensity of magnetization, according to the degree of approach to c_0 , indicates that c_0 corresponds to the phase transition point of the second order. The phase transition ferromagnetism -- paramagnetism, characterized by a specific temperature and composition, indicates that for each temperature point T_0 there corresponds a limiting concentration c_0 on the $T_0(c)$ function above which the material loses its magnetic properties. A comparison of determined c_0 values for Ni-Cr alloys were measured $T_0(c)$ results confirms the shift of c_0 to the side of lower concentrations. The thermodynamic

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USSR

VALIYEV, E. Z., and DOROSHENKO, A. V., Fizika Metallov i Metallovedeniye, Vol 34, No 2, Aug 72, pp 433-436

investigation near phase transition points in alloys can be applied to temperatures and concentration transformation points. Three figures, five formulas, eleven bibliographic references.

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USSR

UDC 681.326.35

DOROSHENKO, A. V., MANDRICH, V. G., PETROV, V. Ye., RIRAKHOVSKIY, Yu. V.,
BALASHOV, L. L.

"A Very-Low-Frequency Sinusoidal Voltage Generator"

USSR Author's Certificate No 315259, filed 15 Dec 69, published 9 Feb 72
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 9,
Sep 72, Abstract No 9A68 P)

Translation: This Author's Certificate introduces a very-low-frequency sinusoidal voltage generator equipped with a master oscillator, a digital-analog converter, and a DC output amplifier. To simplify the circuit of the generator and improve its operational reliability, the digital-analog converter contains a stepped voltage shaper and a shaper for the beginning and end of linear sections. These shaper circuits are interconnected by logic nets and a voltage divider and are connected to the DC output amplifier. Two illustrations.

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Acc. Nr: **AF0037846**

Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy
Fiziki, 1970, Vol 58, Nr 1, pp 124-129

MAGNETIC PROPERTIES OF TERNARY ALLOYS OF THE
NICKEL — IRON — MANGANESE SYSTEM

A. V. Doroshenko, S. K. Sidorov

The saturation magnetization and temperature dependence of the susceptibility of ternary $\text{Ni}(\text{Fe}_{1-x}\text{Mn}_x)$ alloys is measured. It is shown that the magnetization is zero when the alloy contains 28 at.% Mn. In the vicinity of the concentration $c_s^0 = 28$ at.% Mn the magnetic properties strongly depend on field strength. The results are discussed on basis of the concept of disorientation of atomic magnetic moments. The analysis indicates that exchange interaction in Fe — Mn pairs is negative and its magnitude is close to that of exchange interaction in Mn — Mn pairs.

REEL/FRAME

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USSR

UDC 543.544.2:546.791:551.464

RYABININ, A. I., ROMANOV, A. S., DOROSHENKO, G. A., and LAZAREVA, Ye. A.

"Sorption Method for Isolating Uranium and Other Valuable Metals From Sea Water"

Leningrad, Radiokhimiya, Vol 15, No 6, 1973, pp 884-885

Abstract: Experimental results are reported on extraction of uranium and other elements out of sea water using a specially prepared exchange resin. The resin was obtained by saturating granules of AN-2F anion exchange resin with highly dispersed titanium hydroxide. Sea water was passed through a column packed with this material; 46% of the uranium present in sea water was extracted in one passage. This material separated also Cu, Co, Zn, Ag, In, Tl, Cd, and Hg. Traces of Ni, V, Mo, Pb and Mn were identified spectrophotometrically.

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1/2 023 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--APPARATUS FOR IMPREGNATING PACKS OF GLASS FABRIC WITH A BINDER -U-
AUTHOR--(03)--SKIPIN, V.A., DOROSHENKO, I.V., KOVALEV, V.A.
COUNTRY LE INFO--USSR D
SOURCE--KHIM. NEFT. MASHINOSTR. 1970, (2) 40-1
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--GLASS FABRIC, SHIPBUILDING ENGINEERING, REINFORCED
PLASTIC/(U)ASTTBSO IMPREGNATED LGASS FABRIC, (U)TZHS GLASS MAT,
(U)APS609 21 BINDER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1992/1504 STEP NO--UR/0314/70/000/002/0040/0041
CIRC ACCESSION NO--AP0112498
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--J20CT70

CIRC ACCESSION NO--AP0112498

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN AUTOMATIC IMPREGNATING APP. UPS-1 WAS DEVELOPED AND TESTED BY THE LENINGRAD CENTRAL SCIENTIFIC RESEARCH INSTITUTE OF SHIPBUILDING TECHNOLOGY. THE APP. WAS USED TO IMPREGNATE GLASS FABRIC ASTT(B)-S SUB2-0 AND GLASS MAT TZHS-0.7-0 ROLLS WITH AN NPS-609-21 BINDER AT 2.7 M-MIN. UPS-1 INCREASED THE OUTPUT 10 FOLD (COMPARED WITH MANUAL OPERATION) AND IMPROVED THE QUALITY OF THE IMPREGNATED PRODUCT.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--BLAST FURNACE GRANULATED SLAGS RAISE THE QUALITY OF SLAG PORTLAND
CEMENT -U-
AUTHOR--(05)--KRYZHANOVSKAYA, I.A., DOROSHENKO, N.M., POPUDRENKO, M.K.,
TOKAR, V.A., SHEVCHENKO, I.I.
COUNTRY OF INFO--USSR
SOURCE--TSEMENT 1970, (3), 20-1
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--BLAST FURNACE SLAG, CEMENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605018/C08 STEP NO--UR/0101/70/000/003/0020/0021
CIRC ACCESSION NO--AP0140817
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140817

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LAB. AND PRODUCTION TESTS SHOW
THAT PORTLAND CEMENT BASED ON SLAGS OF BLAST FURNACE GRANULATION RAISE
CONSIDERABLY THE CEMENT QUALITY AND INCREASE OUTPUT. FACILITY:
KRIVOROZH. TSEM. ZAVOD., KRIVOI ROG, USSR.

UNCLASSIFIED

USSR

UDC 669.15-196:[62-762:621.165]

DOROSHENKO, N. P., KIRIYEVSKIY, B. A., and TIKHONOVICH, V. I., Engineers

"New Materials for Feed Pump Slit Seal Parts"

Moscow, Khimicheskoye i Neftyanoye Mashinostroyeniye, No 11, Nov 70, pp 24-25

Abstract: The Institute of Casting Problems of the Academy of Sciences, Ukrainian SSR has studied the problem of creation of a material corresponding to the operational requirements of delivery pumps for slit seal parts. These studies have indicated that the most promising material is chromium cast iron. In cooperation with the Ukrainian Scientific Research Institute for Hydraulic Machinery, the Institute has developed a new modified chromium cast iron in which the carbide lattice is broken up by modifiers during treatment of the liquid melted cast iron, thus decreasing the quantity of primary carbides and their dimensions. The modifier, located primarily on the grain boundaries, prevents diffusion of chromium from the grains, so that the content of chromium in the matrix increases to at least 10.26%. Laboratory and test stand studies have shown that this cast iron has improved operational qualities, wear-resistance, antifriction properties, and resistance to scarring and seizing.

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1/2 011 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--STUDY OF THE H ALPHA LINE HALFWIDTHS AND RADIAL VELOCITIES OF A
LOOP NEBULUS IN CYGNUS -U-
AUTHOR--DOROSHENKO, V.T.
COUNTRY OF INFO--USSR
SOURCE--ASTRONOMICHESKII ZHURNAL, VOL. 47, NO. 2, 1970, P. 292-296
DATE PUBLISHED-----70
SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS
TOPIC TAGS--NEBULA, HYDROGEN LINE, ALPHA RADIATION, MODEL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1476 STEP NO--UK/0033/70/047/002/0292/0296
CIRC ACCESSION NO--AP0125104
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0125104

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS OF THE H ALPHA HALFWIDTHS IN A LOOP NEBULUS OF CYGNUS INDICATING THAT A FILAMENT MODEL PROPOSED BY POVEDA (1964) FOR THE LOOP NEBULUS IS INCONSISTENT WITH OBSERVATION. A VALUE OF 40 KM-SEC IS GIVEN FOR THE MEAN H ALPHA HALFWIDTH IN THE FILAMENTS AND A VALUE OF 63 KM-SEC, IN THE DIFFUSED FORMATIONS. ON THE OTHER HAND, THE EXPANSION RATE OF THIS NEBULUS (110 KM-SEC) AND THE RADIAL VELOCITY OF THE ENTIRE NEBULUS (PLUS 16 KM-SEC) ARE FOUND TO AGREE WITH THE RESULTS OF MINKOVSKI (1960). ALSO IN AGREEMENT WITH HIM IS THE CONCLUSION OF THIS STUDY THAT THE RADIAL VELOCITIES OF FILAMENTS AND DIFFUSED FORMATIONS IN THE NEBULUS DO NOT DIFFER. FACILITY: MOSKOVSKII GOSUDARSTVENNYI UNIVERSITET, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 547.26'118

SHOKOL, V. A. KOZHUSHKO, B. N., DOROSHENKO, V. V., and KIRSANOV, A. V.

"Reaction of Dichloromethyl Isocyanate with Triethylphosphite"

Leningrad, Zhurnal Obshchey Khimii, Vol XLIII (CV), No 1, 1973, pp 12-15

Abstract: It was found previously that on interaction of chloromethyl isocyanate with trialkyl phosphites, dialkoxyposphonil methylisocyanates are obtained [V. A. Shokol, et al., ZhOKh, No 40, 1458, 1970]. In the current experiment on interaction of dichloromethylisocyanate with triethylphosphite, depending on the ratio of the reagents, diethoxy phosphonyl chloromethyl isocyanate or bis(diethoxyphosphonyl)methylisocyanate is formed. The reactions and views described for five of these compounds: 1) diethoxy phosphonylchloromethyl isocyanate, 2) bis(diethoxyphosphonyl)methyl isocyanate, 3) N-diethoxyphosphonylmethylene- ρ' - ρ -chlorophenyl urea, 4) N-bis(diethoxyphosphonylmethyl- ρ' -phenyl urea, 5) N-bis(diethoxyphosphonyl)methyl-N'-n-chlorophenyl urea.

1/1

USSR

UDC 632.95

PROTOPOPOVA, G. V., REYDALOVA, L. I., DZYUBAN, A. D., MOLYAVKO, L. I., DOROSH-
ENKO, V. V., MIKHAYLYUCHENKO, N. K., SHOKOL, V. A., DERKACH, G. I.

"Insecticidal Activity of Esters of bis-(3-arylcarbamido) phosphoric and
thiophosphoric Acids"

Fiziol. aktivn. veshchestva. Resp. mezhved. sb. (Physiologically Active
Materials. Republic Interdepartmental Collection), 1972, vyp. 4, pp 9-11
(from RZH-Khimiya, No 5 (II), 1973, Abstract No 5N579)

Translation: A study was made of the insecticidal activity of esters with
the formula $ROP-(X)(NHCONHR')_2$ (I) ($X = O$ or S ; $R =$ alkyl, aryl; $R' = Ph$,
 $C_6H_4SCN-\pi$, α -pyridyl) for rice weevils, housefly larvae and imago and
greenbugs. The I containing the SCN-group have the highest insecticidal
activity, and among them the activity rises on going from the methyl to
the propyl and isopropyl radicals.

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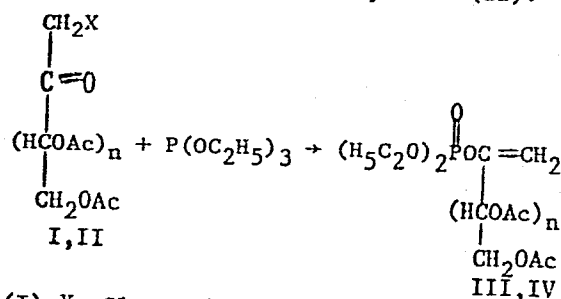
USSR

DOROSHENKO, V. V., KOZHUSHKO, B. N., STUKALO, Ye. A., and SHOKOL, V. A.,
Institute of Organic Chemistry, Academy of Sciences of the UkrSSR

"Dihalophosphonylchloromethylisocyanates"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 484-485

Abstract: Dichloromethyl isocyanate reacts with alkyl difluoro- and dichlorophosphites to form difluorophosphonylchloromethyl isocyanate (I) and dichlorophosphonylchloromethyl isocyanate (II).



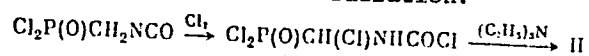
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(I) X=Cl, n=4, D-galacto; (II) X=Br, n=3, L-arabino.

USSR

DOROSHENKO, V. V., et al., Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 484-485

Isocyanate (II) is synthesized by chlorination of dichlorophosphonylmethyl isocyanate (III) in the presence of UV-radiation.



The structure of compounds (I, II, IV) was confirmed by IR-spectroscopy.

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USSR

UDC 547.26.118

SHOKOL, V. A., DOROSHENKO, V. V., DERKACH, G. I. (DECEASED),
Institute of Organic Chemistry, Kiev, Academy of Sciences
Ukrainian SSR

"Reaction of Chloromethylisocyanate With the Salts of Thio-
phosphoric and Thiocarbonic Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 8, Aug 70,
pp 1692-1696

Abstract: Reaction of chloromethylisocyanate with potassium salts of O,O-dialkylthio- and dithiophosphoric acids yields O,O-dialkyl-S-isocyanatomethylthio- and -dithiophosphates, and with the potassium salt of O-ethylthiocarbonic acid, O-ethyl-S-isocyanatomethylthio carbonate. Chloromethylisocyanate in anhydrous benzene is added dropwise to a solution of the potassium salt of O,O-diethyldithiophosphoric acid in anhydrous benzene at 20° and refluxed for 5-10 hours. The precipitate is separated, the filtrate evaporated, and the residual O,O-dialkyl-S-isocyanatothio- or dithiophosphates are redistilled. p-Chloromethylphenylisocyanate in benzene is added to the potassium salt of O,O-dimethyldithio-
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USSR

SEOKOL, V. A., et al, Zhurnal Obshchey Khimii, Vol 40, No 8, Aug 70, pp 1692-1696

phosphoric acid in benzene and refluxed for 11 hours, the precipitate is centrifuged and the filtrate evaporated to give a product with b.p. 75-78°/1 mm, n_D^{20} 1.5668. The O-ethyl-S-isocyanatomethyl-dithiocarbonate, b.p. 70-71/0.2 mm, d_4^{20} 1.2562, n_D^{20} 1.5536 is obtained analogously to O,O-dialkyl-S-isocyanatomethylthiophosphate. To obtain O,O-dialkyl-S-(carbalkoxyaminomethyl)-dithiophosphates, a solution of anhydrous alcohol in absolute ether is added dropwise to a solution of O,O-dialkyl-S-isocyanatomethyldithiophosphate in absolute ether, stirred, and after 16-20 hours the solvent is removed at 10-15 mm, and the residue is kept at 0.2 mm (40-50°) until constant weight. The O,O-diethyl-S-(carbalkoxyaminomethyl)-thiophosphates and O-ethyl-S-(carbalkoxyaminomethyl)-dithiocarbonates are obtained analogously.

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1/5 . 017

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--ACID DIHALIDES AND MONOHALIDES OF ISOCYANATOMETHYL, PHOSPHONIC ACID
ALKYL ESTERS -U-
AUTHOR--(03)--SHOKOL, V.A., DOROSHENKO, V.V., DERKACH, G.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 535-42

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ISOCYANATE, PHOSPHONIC ACID, ESTER, ORGANIC PHOSPHORUS
COMPOUND, CATALYTIC ORGANIC SYNTHESIS, CHLORINE, FLUORINE, AMIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0896

STEP NO--UR/0079/70/040/003/0535/0542

CIRC ACCESSION NO--AP0124559

UNCLASSIFIED

2/5 017

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124559

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MIXING EQUIMOLAR AMTS. OF ROPCL SUB2, ROPF SUB2, OR (RO) SUB2 PCL AND CLCH SUB2 NCO IN THE PRESENCE OF 0.01 MOLE DRY FECL SUB3 CATALYST RESULTED IN A MILDLY EXOTHERMIC REACTION, COMPLETED BY HEATING TO 45-50DEGREES TO ELIMINATE THE EVOLVING ALKYL HALIDE TO GIVE THE FOLLOWING RP(O)(CH SUB2 NCO)X (X AND R SHOWN): CL, CL 56-75PERCENT (FROM ME, ET, OR ISO, PR ESTERS), B SUBOTIMES15 59-60DEGREES, D PRIME20 1.5744, N PRIME20 SUBD 1.4980; CL, ETO (I), 37-53PERCENT, B SUBOTIMES35 82-3DEGREES, 1.3334, 1.4625; CL, ISO, PRO, 16PERCENT, B SUBOTIMES0.4 75-6DEGREES, 1.2664, 1.4590; F, F (FROM BUOPF SUB2), 57PERCENT, B SUB15 68-9DEGREES, 1.5490, 1.4085; AND F, ETO (II), 17PERCENT, B SUBOTIMES2 68-70DEGREES, 1.3002, 1.4180. ALTERNATIVELY, HEATING EQUIMOLAR AMTS. CLCH SUB2 NCO AND EITHER ETOPCL SUB2 OF (ETO) SUB2 PCL TO 65-75DEGREES ALSO GAVE ETCL, BUT IN THE 1ST INSTANCE THE PRODUCT FORMED A TAR, WHILE IN THE 2ND CASE I WAS ISOLATED. EQUIMOLAR AMTS. (ETC) SUB2 PF AND CLCH SUB2 NCO WITH FECL SUB3 CATALYST REACTED AT 50DEGREES TO GIVE ETCL, 17PERCENT ETP(O)(OET)F, B SUB12 50-1DEGREES, 1.1130, 1.3884; AND 17PERCENT II. SIMILAR REACTION WITH (C SUB8 H SUB17 O) SUB2 PCL 6 HR AT 110DEGREES GAVE 75PERCENT C SUB8 H SUB17 CL, WHILE THE REST OF THE MATERIAL POLYMD. ON BEING HEATED. EQUIMOLAR AMTS. MEOPCL SUB2 AND CLCH SUB2 CH SUB2 NCO WITH FECL SUB3 CATALYST REFLUXED 12 HR GAVE NO MECL, AND THER REACTANTS WERE RECOVERED.

UNCLASSIFIED

3/5 017
 CIRC ACCESSION NO--AP0124559 UNCLASSIFIED PROCESSING DATE--30OCT70
 ABSTRACT/EXTRACT--EQUIMOLAR AMTS. CL SUB2 P(O)CH SUB2 NCO AND ROH IN ER
 SUB2 O GAVE OVERNIGHT UNDISTILLABLE RR PRIME1 P(O)CH SUB2 NHCOR PRIME2
 (III) (R EQUALS R PRIME1 EQUALS CL, R PRIME2 EQUALS ETO), D PRIME2O
 1.4560, N PRIME2O SUBD 1.4945; ATTEMPTED DISTN. GAVE ETOH AND AN
 ISOCYANATE AS CONFIRMED BY THE IR SPECTRUM. REACTION OF THE CRUDE
 DICHLORIDES, PREPD. AS ABOVE, WITH 2 MOLES DRY ROH AND ET SUB3 N IN ET
 SUB2 O AT 5DEGREES AND FINALLY AT ROOM TEMP. GAVE THE FOLLOWING III,
 ALSO PREPD. FROM 3 MOLES ROH, 2 MOLES ET SUB3 N AND 1 MOLE CL SUB2
 P(O)CH SUB2 NCO (OR SIMILARLY FROM OCNCH SUB2 P(O)(OR)CL) (R, R PRIME1,
 AND R PRIME2 GIVEN): F, ETO, ETO, (IIA), B SUBOTIMES05 100-12DEGREES,
 1.2497, 1.4368; MEO, MEO, MEO, B SUBOTIMES03 122-5DEGREES, 1.3250,
 1.4578; MEO, MEO, ISO, PRO, B SUBOTIMES06 11-12DEGREES, A.1929, 1.4495;
 MEO, ETO, MEO, B SUBOTIMES03 115-18DEGREES, 1.2404, 1.4525; MEO,
 ISO, PRO, MEO, B SUBOTIMES05 114-16DEGREES, 1.1765, 1.4503; ETO, ETO,
 ETO, B SUBOTIMES2 131-3DEGREES, 1.1516, 1.4465; AND ISO, PRO, ISO, PRO,
 ETO, B SUBOTIMES05 137-40DEGREES, 1.1149, 1.4486. EQUIMOLAR AMTS. OCNCH
 SUB2 P(O)(OET) F AND ETOH IN ET SUB2 O 3 DAYS GAVE UNDISTILLABLE IIA,
 ALSO FORMED FROM 2 MOLES ETOH IN ET SUB2 O AND 1 MOLE OCNCH SUB2 P(O)F
 SUB2 IN 3 DAYS.

UNCLASSIFIED

4/5 017

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124559

ABSTRACT/EXTRACT--REACTION OF 1 MOLE ETOH WITH THE LATTER DIFLUORIDE (FOLLOWED BY IR SPECTRA) PROCEEDED WITH DECLINE OF NCO BANC INTENSITY OVER 10 HR, AFTER WHICH THIS NO LONGER TOOK PLACE OVER 3 DAYS, BUT NO PRODUCTS COULD BE ISOLATED INDIVIDUALLY, OCHCH SUB2 P(O)(OCHME SUB2)CL AND 1 MOLE MEGH IN ET SUB2 O AT NEGATIVE 10DEGREES, THEN AT ROOM TEMP. OVERNIGHT, GAVE AN UNDISTILLABLE MIXT. OF THE STARTING MATERIAL AND EVIDENTLY (ISO,PRC)CIP(O)CH SUB2 NHCO SUB2 ME; SIMILAR REACTION OF ETOH WITH (ETO)P(O)CLCH SUB2NCO GAVE ONLY CRUDE (ETO)P(O)CLCH SUB2 NHCO SUB2 ET AND STARTING MATERIAL, WHICH WERE NOT SEPARABLE. OCNCH SUB2 P(O)F SUB2, OR OCNCH SUB2 P(O)(OET)F, TREATED WITH 1 MOLE PHNH SUB2 IN ET SUB2 O AT NEGATIVE 15DEGREES, THEN WARMED TO ROOM TEMP. GAVE III (R EQUALS R PRIME1 EQUALS R, R PRIME2 EQUALS PHNH), DECOMP. 128-31DEGREES; OR III (R EQUALS F, R PRIME1 EQUALS ETO, R PRIME2 EQUALS NHPH), M. 93-5DEGREES, RESP. SIMILARLY, REACTIONS WITH ET SUB2 NH AND OCNCH SUB2 P(O)CL SUB2 OR OCNCH SUB2 P(O)(OET)CL, GAVE III (R EQUALS R PRIME1 EQUALS R PRIME2 EQUALSET SUB2 N), B SUBOTIMES05 152-5DEGREES, 1.0711, 1.4740; OR III (R EQUALS R PRIME1 EQUALS R PRIME2 EQUALS ET SUB2 N) B SUBOTIMES05 140-3DEGREES, 1.0470, 1.4850. REACTION OF OCHCH SUB2 POCL SUB2 WITH 0.9 MOLE PHNH SUB2 IN ET SUB2 O AT NEGATIVE 10DEGREES, COMPLETED AT ROOM TEMP., GAVE CL SUB2 P(O)CH SUB2 NHCONHPH, CONTAMINATED WITH MUCH STARTING MATERIAL AND M. 142-5DEGREES; THIS CONTAINED ALSO SOME P, AMIDE MATERIAL. SN OCTOATE AS A CATALYST GAVE A SIMILAR RESULT. REACTION OF AMINES OR ALCS. WITH OCHCH SUB2 P(O)(OR)CL RESULTED IN INVOLVEMENT OF BOTH CL AND NCO GROUPS SO THAT PURE PRODUCTS COULD NOT BE ATTAINED.

UNCLASSIFIED

5/5 017

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124559

ABSTRACT/EXTRACT--UCNCH SUB2 POCL SUB2 AND 5 MOLES ET SUB2 NH GAVE ET SUB2
NCONHCH SUB2 PO(NET SUB2) SUB2, AS EXPECTED. FACILITY: INST.
ORG. KHIM., KIEV. USSR.

UNCLASSIFIED

USSR

UDC 536.46+534.29

DOROSHENKO, V. YE., FURLETOV, V. I., Moscow

"Stroboscopic Study of the Effect of Standing Sound Waves on a Turbulent Flame"

Novosibirsk, Fizika gorennya i vzryva, Vol 8, No 3, 1972, pp 388-393

Abstract: A study was made of the acoustic effect on a flame in connection with discovering the nature of vibration and turbulent combustion. An experiment was performed with a burner with a central channel and two lateral channels. The object of the study was the central flame protected by the lateral flames from mixing with the surrounding air. The plane-parallel structure of the flow was insured by cooled walls with quartz windows. The temperature of the uniform gasoline-air mixture was 483° K. A transverse standing sound wave was created by two 10GRD-5 loud speakers. They were installed opposite each other on both sides of the flame. The stroboscopic method of investigation is described. A small series of experiments were also performed with axisymmetric flames on a burner in which the central slot was replaced by three cylindrical channels 16 mm in diameter and 149 mm long.

The shape of the turbulent motion depends on the position of the flame in the field of the standing sound wave. At the pressure antinode, eddies are formed which are arranged symmetrically with respect to the central line of the planar flame; at the pressure node, they are arranged antisymmetrically. The
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USSR

DOROSHENKO, V. YE., et al., Fizika goreniya i vzryva, Vol 8, No 3, 1972, pp 388-393

intensity and phase of the eddy formation in the flame at the pressure antinode of the standing wave depends essentially on the acoustic properties of the channel from which the hot mixture comes. A scheme is proposed for periodic occurrence of the eddies in the flame under the effect of a pure tone.

2/2

- 153 -

1/2 045

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--PROVISION FOR CRISIS FREE, HEAT TRANSFER, REGIONS IN THE ACTIVE
ZONE OF AN AMB REACTOR OF BLOCK NO. 1 OF THE BELOYARSK NUCLEAR POWER
AUTHOR--(03)--DOROSHCHUK, V.YE., NEVSKIY, V.P., SHASHARIN, G.A.

COUNTRY OF INFO--USSR

SOURCE--TEPLOENERGETIKA 1970, 17(3), 54-6

DATE PUBLISHED-----70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, PHYSICS

TOPIC TAGS--HEAT TRANSFER, NUCLEAR POWER PLANT, NUCLEAR REACTOR/(U)AMB
REACTOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/1903

STEP NO--UR/0096/70/017/003/0054/0056

CIRC ACCESSION NO--AP0108233

UNCLASSIFIED

2/2 045

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0108233

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE OPERATION OF AN AMB REACTOR (BOILING WATER TYPE) AT 100 MW IS DISCUSSED PARTICULARLY WITH REGARD TO THE FORMATION OF UNSTABLE HEAT TRANSFER ZONES AT COOLANT EXIT MASS VAPOR CONTENTS (X) EQUALS 0.35. THIS MODE OF HEAT TRANSFER, REFERRED TO AS MODE II, IS CAUSED BY STRUCTURAL CHANGES IN THE 2-PHASE FLOW AND THE EVAPN. OF THE BOUNDARY LIQ. FILM. AN EQUATION IS DEVELOPED FOR THE CALCN. OF THE CRIT. VAPOR COMPN. (X PRIMEO SUBCR) AT WHICH MODE II HEAT TRANSFER OCCURS. THE X PRIMEO SUBCR IS INDEPENDENT OF THE HEAT FLOW (Q). CURVES OF X PRIMEO SUBCR SHOW IT TO BE A FUNCTION OF COOLANT FLOW RATES (RHO OMEGA) OF 750-2000 KG-M PRIME2-SEC AND COOLANT PRESSURES OF 50-190 ATM. INSTABILITY OF HEAT TRANSFER (MODE II) WAS ELIMINATED BY INCREASING THE COOLANT RHO OMEGA TO 3200-3300 KG-M PRIME2-SEC AND BY DECREASING ITS PRESSURE TO 135 ATM; AN X EQUALS 0.21-0.22 WAS ATTAINED WHICH IS SIGNIFICANTLY LOWER THAN THE X PRIMEO SUBCR OF 0.33 FOR THESE CONDITIONS.

UNCLASSIFIED

1/2 032 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--EFFECT OF SYNTHESIS CONDITIONS ON THE PROPERTIES OF POLY(AMINO
AMIDO ACIDS) -U-
AUTHOR--(05)-KORSHAK, V.V., DOROSHENKO, YU.E., TEPLYAKOV, M.M., FEDOROVA,
R.D., VOLKOV, B.V.
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN. SER. A 1970, 12(3), 677-80
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--CHEMICAL SYNTHESIS, POLYMER, POLYCONDENSATION, AMINE,
PYROMELLITIC ACID, ANHYDRIDE, LOW TEMPERATURE EFFECT, POLYAMIDE
COMPOUND, MECHANICAL STRENGTH
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/0309 STEP NO--UR/0459/70/012/003/0677/0680
CIRC ACCESSION NO--AP0111503
UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0111503

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE POLYCONDENSATION OF CH SUB2 (C SUB6 H SUB3 (NH SUB2) SUB2-3,4) SUB2 WITH PYROMELLITIC ANHYDRIDE (I) IN HCONME SUB2, ACNME SUB2, OR N-METHYL-2-PYRROLIDINONE AT MINUS 30DEGREES TO PLUS 20DEGREES GAVE II. II MOL. WT. WAS MAX. AT MINUS 20DEGREES AND WAS VERY SUBSTANTIALLY INCREASED WHEN 5PERCENT I MOLE EXCESS WAS USED; HCONME SUB2 OR ACNME SUB2 WERE THE BEST SOLVENTS. THERMAL DEHYDRATION OF II GAVE POLYCYCLIC LADDER POLYAMIDES OF INCREASED MECH. STRENGTH.

UNCLASSIFIED

USSR

UDC 639.304.5(262.54)

GARAYEV, R. A., and DOEOSHEV, S. I., All-Union Institute of Marine Fishing and Oceanography

"Comparative Study of Morphological Characteristics of *Atherina* (*Atherina mochon pontica nation caspia* Eichwald) From the Aral Sea and Southeastern Part of the Caspian Sea"

Moscow, Biologicheskiye Nauki, No 9, 1971, pp 12-16

Abstract: Several hundred Caspian Atherinids were transplanted in 1956-1958 to the Aral Sea where they are now probably the most numerous fish species. A comparison of 14 morphological characters show that the original population in the southeastern part of the Caspian differs significantly from the Aral transplants in only 5: anterodorsal distance, eye diameter, snout length, number of vertebrae, and number of rays in the first spinal fin. The Aral *Atherina* has a smaller anterodorsal distance, eye diameter, and number of vertebrae but a larger number of rays in the fins. Some of the differences between the Aral and Caspian atherinids are attributed to the differences in temperature between the two lakes. The waters of the Aral are much colder in the winter.

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172 023 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--EVOLUTION OF RADIO SOURCES AT LARGE RED SHIFTS -U-
AUTHOR-(03)-DOROSHKEVICH, A.G., LONGAIR, M.S., ZELDOVICH, YA.B.
COUNTRY OF INFO--USSR
SOURCE--MON, NOTIC, ROY. ASTRON. SOC.; 147: 139-48, 1970
DATE PUBLISHED-----70
SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS
TOPIC TAGS--RADIO WAVE PROPAGATION, MODEL, COSMOLOGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605018/F07 STEP NO--UK/0000/70/147/000/0139/0148
CIRC ACCESSION NO--AP0140888
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140888

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EVOLUTIONARY COSMOLOGICAL MODELS IN WHICH THE RADIO SOURCE POPULATION CAN EXTEND TO LARGE REDSHIFTS ARE DISCUSSED. MODELS INCORPORATING EXPONENTIAL AND POWER LAW FORMS OF EVOLUTION OF THE AVERAGE PROPERTIES OF RADIO SOURCES WITH COSMOLOGICAL EPOCH HAVE BEEN COMPUTED FOR WORLD MODELS WITH Λ EQUALS 0, Ω EQUALS 1 AND Ω EQUALS 0. THESE ARE COMPARED WITH THE LATEST OBSERVATIONAL DATA AND PREVIOUS ANALYSES OF THE SOURCE COUNTS. IT IS SHOWN THAT EXPONENTIAL MODELS ARE COMPATIBLE WITH THE OBSERVATIONS AND DO NOT REQUIRE A SHARP CUTOFF IN THE RADIO SOURCE DISTRIBUTION AT LARGE REDSHIFTS. THE LUMINOSITY FUNCTION OF RADIO SOURCES AT LARGE REDSHIFTS MUST EXHIBIT A MARKED MAXIMUM MINIMUM BEHAVIOUR. THE PHYSICAL INTERPRETATION OF DIFFERENT LAWS OF COSMOLOGICAL EVOLUTION IS DISCUSSED.

FACILITY: INST. OF APPLIED MATHEMATICS, MOSCOW.

UNCLASSIFIED

USSR

DOROSHKEVICH, A. G., ZEL'DOVICH, Ya. B., and NOVIKOV, I. D., Institute of Applied Mathematics of the USSR Academy of Sciences

"Perturbations in an Anisotropic Homogeneous Universe"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 60, No 1, 1971, pp 3-8

Abstract: It has been shown that for anisotropic solutions of the Einstein equations close to a singularity the effect of matter on the space-time metric close to the singularity disappears. The cosmological problem of the growth of density perturbations in expanding matter, which is, on the average, at rest relative to a synchronous reference frame, and also variations in the amplitude of gravitational and acoustical waves are examined in the paper. Its aim is to show that the growth of perturbations in the density of matter in an anisotropic expanding universe is a kinetic effect caused by the motion of matter in a gravitational field that is described by solution of equations of gravity for empty space. An attempt is made to find the laws of the growth of perturbations in the density of matter. The nonrelativistic motion of matter is considered. It is shown that in

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USSR

DOROSHKEVICH, A. G., et al, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 60, No 1, 1971, pp 3-8

anisotropic models of the universe perturbations grow at a rate that is three-five times greater than in an isotropic model.

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USSR

UDC 62-531.4

DOROSHKEVICH, Ye.M., KOZLOV, E.P., POTAPOV, A.A., SHAPKAYTS, G.I.

"A Tracking System"

USSR Author's Certificate No 263014, Filed 23/12/68, Published 8/06/70
(Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i
Vychislitel'naya Tekhnika, No 12, 1970, Abstract No 12 A277P)

Translation: A tracking system is suggested containing a sensor, sine-cosine transformer, amplifiers, a phase detector, and an actuating motor. It differs in that in order to increase accuracy, it contains an additional commutator, one input of which is connected to an external reference voltage source, the other to the cosine winding of the sine-cosine transformer rotor, while the output is connected to the reference voltage input of the phase detector.

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UDC 621.375.4+62-83

GLUKHAREV, A. A., DOROSHKEVICH, Ye. M., POTAPOV, A. A., FEDOROV, A. V.,
FILATOV, G. I.

"A Power Amplifier"

USSR Author's Certificate No 321916, filed 19 Sep 70, published 24 Jan 72
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 9,
Sep 72, Abstract No 9A81 P)

Translation: As a distinguishing feature of the proposed power amplifier, operational reliability is improved by adding a DC correcting link connected between a phase-insensitive rectifier and a transistorized controlled resistor. One illustration. V. T.

1/1

USSR

UDC: 621.396.669.8:621.3.078-503.55

DOROSHKEVICH, Ye. M., KOZLOV, E. P., POTAPOV, A. A., SHAPKAYTS, G. I.

"A Tracking System"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 18, 1970, Author's Certificate No 271617, filed 23 Dec 68, p 46

Abstract: This author's certificate introduces a tracking system which contains a pickup, sine-cosine transformer, circuit for suppression of quadrature interference made in the form of a key controlled by a full-wave rectifier with angle cutoff, amplifiers, a phase detector, and an actuating motor. As a distinguishing feature of the patent, the precision and reliability of the system are improved by adding a minimum signal amplitude limiter connected in parallel with the circuit for suppression of quadrature interference. The cosine winding of the sine-cosine transformer rotor is connected to the input of the full-wave rectifier.

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USSR

UDC: 621.373:530.145.6

DOROSHKIN, A. A.

"On the Possibility of Developing a Sealed Ultraviolet Laser on Molecular Nitrogen With a Pulse Repetition Frequency of up to 1000 Hz"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific and Technical Collection. SHF Electronics), 1970, vyp. 9, pp 127-129 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12D198)

Translation: It is shown that an ultraviolet laser can be developed on molecular nitrogen which is capable of operation at a pulse repetition frequency of up to 1000 Hz. Resumé.

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USSR

UDC 612.833.81+159.9+612.822.3

DOROSHKOVA, K. P.

"Indices of Higher Nervous Activity in Evaluating Fatigue in the Course of a Cooperative School Year in Students"

Sb. Tr. Gorkov. n.-i. pediatr. in-t (Gorkiy Scientific-Research Pediatric Institute -- collection of works), 1970, No 7, pp 44-49 (from RZh-Biologiya, No 1, Jan 71, Abstract No 1P549)

No Abstract

1/1

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USSR

UDC 621.893

DOROSHUK, A. P., and YAMPOLETS, N. G.

"The Manufacture of Bushings With the Use of a Metal-Fluoroplast Band"

Moscow, Mashinostroitel', No 9, Sep 73, pp 23-24

Abstract: The industrial production of metal-fluoroplast materials has been mastered at the Klimovsk Machinebuilding Plant. Metal-fluoroplast has a 08KP steel base which is covered with a layer of spherical particles of high-stannous 0-10 bronze. At present, screwed bushings, 10-55 mm in diam., are produced from metal-fluoroplast bands by the stamping method. The technological production process of metal-fluoroplast bushings, 70-120 mm in diam., at the Scientific Research Institute of Hoisting and Conveying Installations is described by reference to illustrated individual procedures. Bushings and linings for heavy loaded friction nodes, produced with the use of self-lubricating metal-fluoroplast materials, are shown. An experimental set of parts produced with the use of metal-fluoroplast is now successfully tested in friction modes of crane conveyers at Zhdanov Metallurgical Plant imeni Il'yich.

1/1

- 30 -

USSR

UDC: 621.391.82:621.332.6

DOROSINSKIY, L. R., KUBASHEVSKAYA, O. V.

"Effect Which Short Circuits in a DC Contact Network Have on Communications Lines"

Nauch. tr. Omsk. in-t inzh. zh.-d. transp. (Scientific Works. Omsk Institute of Railway Transportation Engineers), 1970, 119, pp 53-57 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A226)

Translation: The paper deals with the effects which commutation processes due to short circuits of the contact conductor across the rails have on a communications network. It is shown that the frequency spectra are different for various types of short circuits. The highest amplitudes of interfering voltages arise when the short circuit is opened, which may cause appreciable distortion of information transmitted over the communications circuits. Three illustrations, one table, bibliography of two titles. Resumé.

1/1

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USSR

UDC 669.253.2

DOROVSKIKH, V. M.

"Behavior of Metals During the Pyrometallurgical Treatment of Nickel-Cobalt Concentrates"

Moscow, Tsvetnyye Metally, No 6, 1972, pp 16-17

Abstract: In order to explain high losses of cobalt from nickel-cobalt concentrates (which also contain small amounts of Fe and Cu) during sintering in a fluidized bed, followed by reduction electric smelting, several cinder fractions were separated and analyzed. Results indicated that the Co:Ni ratio was especially high for particles 0-0.2 mm in size, i.e., for particles constituting the main portion of the plant dust. Consequently, Co losses were attributed to highly dispersed dust particles. It is assumed that enrichment of small dust particles with Co during sintering occurred as the result of primary oxidation of cobalt sulfides. The latter are found mostly on the surface of the concentrate particles and have a higher tendency for oxidation in comparison with other sulfides. As a result, the cobalt accumulated primarily on the surface of the cinder particles is lost during sintering in the fluidized bed because of friction among the particles and with the sintering furnace walls. The lost particles become dust with a high Co:Ni 1/2

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USSR

DOROVSKIKH, V. M., Tsvetnyye Metally, No 6, 1972, pp 16-17

ratio. In order to eliminate the irreversible losses of cobalt, dust-trapping devices should be installed at plants, and sintering particles should be enlarged by changing the sintering temperature and introducing low-melting additives (such as sulfides) into the charge.

2/2

USSR

UDC 681.2.083.8.082.7

DORZHIYEV, D. D., KARPOV, V. M.

"Linearization of the Characteristic Curve of Vibration-Frequency Pickup"

V sb. Vibratsionno-chastotn. preobrazovateli Ch. 1 (Vibration-Frequency Converters--Collection of works), Part 1, Moscow, "Energiya", 1970, pp 54-65 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 8, Aug 70, Abstract No 8.32.403)

Translation: The questions of linearization of the characteristic curves of vibration-frequency pickups on the basis of measurement of the difference of frequency of two sensing elements, tested during the application of the measured load extension and compression, are explained. Based on the analytical expression of the frequency of vibration of the element, the ratios are determined between the initial frequencies and the parameters of deviation of sensing elements which make possible the best linearity of the difference frequency. Analysis of the obtain conditions allows recommendation of a practical method of adjustment which results in the reduction of error of nonlinearity. 1 table, 5 ill., 4.

1/1

USSR

UDC 537.533.2+537.534

DOROZHKIN, A. A., KRONKALNS, G. YE.

"Ion-Electron Emission of Incandescent Metals"

Tr. Leningr. politekhn. in-ta (Works of Leningrad Polytechnical Institute), 1970, No 311, pp 77-82 (from RZh-Fizika, No 12(I), Dec 70, Abstract No 12Zh655)

Translation: A technique for measuring ion-electron emission of incandescent metals by using an ion beam periodically modulated in intensity is discussed. The design of an experimental setup for investigating electron emission of various metals under the action of H_2^+ ions at target temperatures up to $2100^\circ K$ is described. Data is presented on ion-electron emission of Ta at H_2^+ ion energies from 0.2 to 10 kev and target temperatures from 300 to $2100^\circ K$. Authors abstract.

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USSR

UDC 577.3

KOGAN, A. B., SACHAVA, T. S., ~~DOROZHKINA, I. I.~~, PAVELKO, V. M., and
GOL'TSEVA, I. N.

"The Mechanism of the Effect of a Constant Magnetic Field"

Vliyaniye Magnitnykh Poley na Biologicheskiye Ob"yekty, pp 56-68

Abstract: An investigation was made of the effect of a constant magnetic field on organisms of different evolutionary levels. During experiments on infusoria, a change in movements, redistribution and reduction of RNA (protoplasmic), and an increase in aerobic glycolysis was observed under the influence of a constant magnetic field. In the cells of nitella algae, a reduction in dormancy potential during the effect of a magnetic field was detected using the technique of intracellular registration of biopotentials. The effect depended on the intensity of the field being used and on seasonal conditions under which the experiment was conducted. In studying a single nerve cell of the muscle extension receptor of a crab, it was established that a magnetic field of 500 Oe with an exposure of 30 minutes causes an inhibitory reaction in the neurons whose intensity depended on the season. Structural changes in the neurons were characterized by disintegration of small RNA chunks and RNA accumulation

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USSR

KOGAN, A. B., et al., Vliyaniye Magnitnykh Poley na Biologicheskiye Ob'yekty, pp 56-68

in the perinuclear area. The physiological activity of adrenalin exposed to a magnetic field changed when it was tested on an isolated frog heart according to the Shtrauber method.

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USSR

UDC 593.1.044.8

DOROZHKOVA, L. I., Laboratory of Biophysics, Rostov University, Rostov-na-Donu


"The Effect of a Permanent Magnetic Field on the Metabolism of Infusoria"

Leningrad, Tsitologiya, Vol 12, No 6, Jun 70, pp 783-786

Abstract: Cultures of *Paramecium caudatum* were subjected to the action of a permanent magnetic field with an intensity of 1,000 oe. Glycogen content of the paramecia decreased, while the lactic acid content and sensitivity to the action of 2,4-dinitrophenol increased. Glycogen content was restored to the initial level 4 hours after the action of the magnetic field had been terminated, and that of lactic acid, 4-5 hours after termination. The rate of aerobic glycolysis was apparently increased under the influence of the magnetic field. The increased sensitivity to 2,4-dinitrophenol indicated that this effect was due to a disturbance of oxidative phosphorylation. 2,4-Dinitrophenol and the magnetic field acted in the same way in interfering with oxidative phosphorylation, with the result that glycolysis was stimulated. Paramecia in a solution of 2,4-dinitrophenol perished earlier after exposure to the effect of the magnetic field than those exposed to the magnetic field alone.

1/1

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1/2 027 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--EFFECT OF BORON ON THE ACCUMULATION OF SUGAR IN SUGAR BEETS AND
CARROTS -U-
AUTHOR--(02)-NELYUBOVA, G.L., DOROZHINA, L.A. 

COUNTRY OF INFO--USSR

SOURCE--IZV. TIMIRYAZEV. SEL'SKOKHOZ. AKAD. 1970, (1), 118-26

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BORON, FOOD ANALYSIS, RADIOACTIVE TRACER, CARBOHYDRATE
METABOLISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3008/0545

STEP NO--UR/9058/70/000/001/0118/0126

CIRC ACCESSION NO--AP0137634

UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0137634

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BORON WAS APPLIED TO CARROTS AND SUGAR BEETS GROWN IN POTS CONTG. SAND AT 1.0 AND 0.1 MG-KG, AND 4.0 AND 0.4 MG-KG, RESP. WHEN THE PLANTS WERE 90 AND 106-110 DAYS OLD, PRIME14 CO SUB2 WAS INTRODUCED FOR 1 HR. THE LEAVES AND ROOTS WERE ANALYZED FOR SUGARS AND RADIOACTIVITY. IN ANOTHER EXPT. A GROWTH INHIBITOR, 0.5PERCENT MALEIC HYDRAZIDE WAS SPRAYED ON THE PLANTS TO STUDY THE EFFECT ON CARBOHYDRATE TRANSPORT. BORON DEFICIENCY LED TO A BREAKDOWN IN SUGAR TRANSPORT NOT ONLY FROM THE LEAVES TO THE ROOT BUT INSIDE THE ROOT ITSELF. THESE CHANGES IN CARBOHYDRATE METABOLISM OCCURRED BEFORE ANY EXTERNAL SYMPTOMS OF B DEFICIENCY WERE OBSERVED. THE EFFECTS OF MALEIC HYDRAZIDE WERE SIMILAR IN MANY, BUT NOT ALL, WAYS. GROWTH PROCESSES AFFECTED THE TRANSLOCATION OF CARBOHYDRATES, AND GROWTH INHIBITION DUE TO B DEFICIENCY SHOWED UP IN THE SUGAR OUTFLOW.

UNCLASSIFIED

USSR

UDC 681.327

DOROZHKOVA, V. Ya. KULTYGIN, Ye. V., SOLODOVNIKOV, Yu. N.

"Device for Data Input to Digital Computers"

Tr. Vses. n.-i. in-ta stroit. i dor. mashinostr. (Works of the All-Union Scientific Research Institute of Construction and Road Machine-Building), No 46, 1970, pp 84-85 (from RZh-Avtomatika, Telemekhanika i vychislitel'naya tekhnika, No 9, Sep 70, Abstract No 9B515K)

Translation: Statistical processing of experimental data usually requires use of a digital computer. Under experimental conditions, the data is recorded in the form of a continuous signal on an oscillographic tape. Therefore, most often this data is input to the digital computer in two steps: conversion of the initial data into numerical values and transfer of the numerical values to the information carrier for the digital computer. These steps are extremely labor-consuming and greatly increase the processing time as a whole. A device has been developed for inputting data directly to the ready-access memory of the computer. The basic advantage of the device is the fact that it is built on the basis of elements and modules of series-manufactured computers. The block diagram of the device was developed as applied to the Razdan-2 digital computer.

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1/2 025
UNCLASSIFIED
TITLE—CALCULATING THE CHARACTERISTICS OF ANISOTROPIC STEEL DURING
TRANSVERSE SUPERPOSED MAGNETIZATION -U- PROCESSING DATE--30OCT70
AUTHOR--DOROZHKO, L.I.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, IZVESTIYA AKADEMII NAUK SSSR: ENERGETIKA I TRANSPORT, NO
1, 1970, PP 140-142
DATE PUBLISHED--70
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--MAGNETIZATION, BIBLIOGRAPHY, ELECTRIC STEEL, COLD ROLLING,
ANISOTROPY, MAGNETIC PROPERTY, TRANSFORMER STEEL/(U)E330 ELECTRIC STEEL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/1325
STEP NO--UR/0281/70/000/001/0140/0142
CIRC ACCESSION NO--AP0121281

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123283

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A TECHNIQUE IS PROPOSED FOR CALCULATING THE LONGITUDINAL TRANSVERSE MAGNETIZATION CHARACTERISTICS OF COLD ROLLED ELECTRICAL STEEL EXHIBITING SHARP ANISOTROPY OF ITS MAGNETIC PROPERTIES. THE CALCULATIONS ARE CARRIED OUT WITH RESPECT TO FOUR RELATIONSHIPS, TWO OF WHICH ARE NONLINEAR FUNCTIONS OF A RESULTING FIELD INTENSITY VECTOR IN STEEL (H). THESE ARE SIMPLY DETERMINED EXPERIMENTALLY IN STANDARD MAGNETIZATION DEVICES. RESULTS ARE GIVEN FOR THE CALCULATION OF LONGITUDINAL TRANSVERSE MAGNETIZATION CHARACTERISTICS FOR GRADE E 330 STEEL. THESE ARE IN GOOD AGREEMENT WITH EXPERIMENTAL DATA OBTAINED FROM A MODEL MADE FOR THE SAME STEEL.

1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DYNAMICS OF STREPTOMYCIN PENETRATION THROUGH INFLAMMATION CHANGED
TISSUE BARRIERS IN PATIENTS WITH LUNG TUBERCULOSIS -U-
AUTHOR--(02)--KARACHUNSKIY, M.A., DOROZHKOVA, I.R.

COUNTRY OF INFO--USSR

SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 6, PP 557-561

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--STREPTOMYCIN, TUBERCULOSIS, BLOOD SERUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1840

STEP NO--UR/0297/70/015/006/0557/0561

CIRC ACCESSION NO--AP0125451

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125451

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. STREPTOMYCIN PENETRATION WAS STUDIED WITH THE METHOD OF KANTARIDIN BLADDER MODIFIED BY BARTELHEIMER IN 31 PATIENTS SUFFERING FROM THE LUNG TUBERCULOSIS. THE ABSOLUTE CONTENT OF STREPTOMYCIN IN THE BLOOD SERUM DID NOT DEPEND ON THE PROCESS PHASE AND WAS THE SAME IN VARIOUS GROUPS OF THE PATIENTS, WHILE THE PEAK OF THE DRUG LEVEL IN CASES WITH THE PROCESS OUTBREAK WAS OBSERVED EARLIER (IN 1 TO 1.5 HOURS), THAN IN CASES WITH FADING PROCESS (IN 2 HOURS). STREPTOMYCIN LEVELS IN THE FILTRATE AND THE COEFFICIENTS OF THE DRUG PENETRATION WERE MUCH HIGHER DURING THE WHOLE PERIOD OF OBSERVATION IN CASES WITH THE PROCESS OUTBREAK. THE PENETRATION COEFFICIENTS UNDERWENT REGULAR CHANGES DURING THE STUDY. AT FIRST THEY INCREASED SIMULTANEOUSLY WITH THE RISE IN STREPTOMYCIN BLOOD LEVELS AND THEN GRADUALLY DECREASED. THE DATA MAY BE INDICATIVE OF DECREASED PERMEABILITY OF THE TISSUE BARRIERS FOR STREPTOMYCIN IN PATIENTS WITH RESOLVING AND FADING INFLAMMATION CHANGES. THIS REQUIRES THE NECESSARY USE OF THE TREATMENT METHODS DIRECTED TO AN INCREASE OF THE DRUG PERMEABILITY TO THE DISEASE FOCI. FACILITY: CENTRAL INSTITUTE FOR TUBERCULOSIS OF THE USSR MINISTRY OF PUBLIC HEALTH, MOSCOW.

UNCLASSIFIED

USSR

UDC: 62-502

DORRER, G. A., OZHORZIN, V. A., Institute of Physics imeni L. V. Kirenskiy,
Siberian Department of the Academy of Sciences of the USSR, Krasnoyarsk

"Concerning a Problem in Synthesis of Systems With Distributed Parameters
on the Basis of the Theory of Moments"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya
Tekhnicheskikh Nauk, No 13(208), Issue 3, Oct 72, pp 112-119

Abstract: The problem of calculating the dynamic characteristics of plants with distributed parameters and systems for controlling them remains one of the most important problems in design of equipment for chemical technology. One of the effective methods of calculating the dynamics of plants of this type is based on utilizing moment characteristics. In essence, the moments of the impulse transfer function of a plant (inertia) are used to evaluate the dynamic properties of this plant. The further development of this computational method involves extension to problems of analysis and synthesis of systems for control of industrial plants. In this paper one of the possible approaches to such problems is suggested, based on the theory of the Z -problem of moments. Comparatively simple formulas are derived for the function which gives the solution of the finite-dimensional problem of moments in space $L^2(0,T)$, and for determining the conditions of solvability of this problem. The results are utilized

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• USSR

DORFER, G. A. and OKHORZIN, V. A., Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Tekhnicheskikh Nauk, No 13(203), Issue 3, Oct 72, pp 112-119

in synthesizing an invariant system for controlling a plant with distributed parameters. The problem of synthesis is solved exclusively on the basis of information on the moments of the impulse transfer function of the plant. The authors thank B. N. Devyatov for taking part in formulation of the problem and for discussing the results.

2/2

USSR

VOLKOVA, V. N., DOSHCHANNIKOVA, S. L.

"Use of Computers in Synthesis of Automatic Information Systems"

Problemy Konkretn. Sistemn. Issled. [Problems of Specific Systems Studies
-- Collection of Works], Moscow, 1971, pp 169-178, (Translated from
Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V731).

NO ABSTRACT.

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USSR

UDC 539.4

DOSHCHINSKIY, G. A., POGOZHEVA, N. V.

"Study of the Change in Elastic Constants of a Material Under Plastic Deformation"

Izv. Tomsk. politekhn. in-ta (News of Tomsk Polytechnical Institute), 1972, Vol. 225, pp 23-25 (from RZh-Mekhanika, No 8, Aug 72, Abstract No 8V900)

Translation: Youngs modulus E and the Poisson coefficient μ as functions of plastic elongation δ were investigated on large cylindrical samples ($l = 700$ mm, $d = 45$ mm) of steel 20Kh are given. Weight distribution was achieved through equal stages of plastic deformation; the total deformation of the sample after 10-12 such stages reached 9-10%. It was observed that the value of μ first rose by 12-15% with the growth of δ and then almost did not change; the value of E , on the contrary, first drops off rapidly by 15-18% and then remains practically constant (after $\delta = 2-3\%$). The second elasticity coefficient K and the shift modulus G calculated in terms of E and μ behave as follows: $K \approx \text{const}$; the G vs. δ graph is similar to the E vs. δ graph.
R. A. Vasin.

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USSR

UDC 539.374

MAKSAK, V. I., DOSHCHINSKIY, G. A.

"Investigation of Large Plastic Deformations Under a Complex Load"

Izv. Tomsk. politekhn. in-ta (Herald of Tomsk Polytechnical Institute), 1970, Vol. 173, pp 10-12 (from RZh-Mekhanika, No 9, Sep 71, Abstract No 9V424)

Translation: A method previously proposed by the authors is used to study large plastic deformations (Izv. Tomsk. politekhn. in-ta, 1970, Vol. 173, pp 3-9: RZhMekh., 1971, Abstract No 8V419). Two cylindrical samples of similar diameters d_1 and d_2 were submitted to stretching and twisting; the differences in the axial forces P_1 - P_2 applied to them and the moments M_1 - M_2 are interpreted as a load applied to a thin-walled tube of thickness $(d_1-d_2)/2$. The "tube" was tested according to the following program: a simple twisting load up to the value $\sigma_i = \sigma_i^0$ corresponding to a plastic deformation e_i^0 in several tenths of percent and then deformation at $\sigma_i = \text{const} = \sigma_i^0$. A graph of $\Delta e_i \sim S$, where S is the

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USSR

MAKSAK, V. I., DOSHCINSKIY, G. A., Izv. Tomsk. politekhn. in-ta, 1970, Vol. 173, pp 10-12

length of the arc of the path of the complex load, is given for the segment of the complex load $\sigma_i = \sigma_i^0$. (Qualitatively the results of the experiments are close to similar experiments of the authors for small deformations (see, for example, Inzh. zh. Mekhan. tverd. tela, 1966, No. 3, pp 153-155: RZhMekh, 1966, Abstract No 12V197), however the very small increment Δe_i is considerable as compared with e_i^0 in the period of the complex load, when $S \approx \sigma_i^0$. R. A. Vasin.

USSR

UDC: 620.10

DOSHCHINSKIY, G. A., Candidate of Technical Sciences,
POGOZHEVA, N. V., Aspirant, POGOZHEV, A. M., Instructor,
Tomsk Polytechnic Institute

"Investigation of Anisotropy of Elastic Properties of
Deformed Metal Under Linear Tension"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy,
Mashinostroyeniye, No. 4, 1971, pp 5-9

Abstract: Investigation was conducted on 6 mm thick steel
plate in the original condition and after it was subject
to 1, 2, 4 and 6% elongation in the longitudinal direction.

20 x 120 mm specimens were cut in directions between
longitudinal and transversal in 15° increments. Modulus
of elasticity of these specimens were determined by means
of a precision tension machine.

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USSR

DOSHCHINSKIY, G.A., et al, Izvestiya Vysshikh Uchebnykh Zavedeniy, Mashinostroyeniye, No 4, 1971, pp 5-9

The difference between the maximum and minimum modulus is 3.6% in the original condition of the plate, 5% with the plate subject to 1% elongation, 8.5% with the plate subject to 2, 4 and 6% elongation.

The maximum modulus occurs at 50 to 60° from the longitudinal direction.

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DORSKAYA, YE. N.

3/285 59208
6-73

3

VII-3. STUDY OF STRUCTURAL DEFECTS IN EPITAXIAL FILMS OF GALLIUM ARSENIDE

[Article by G. F. Lymar', Ye. N. Dorskaya, G. A. Alekseyeva, Moscow: Novosibirsk. Ill. Sibirskiy po. Protsessy kosta i kroma poluprovodnikov Kristallov i Plenok, Russian, 12-17 June, 1972, p. 89]

The methods of chemical and ion etching, raster electron microscopy, x-ray topography and microanalysis were used to investigate the structural defects in the substrates and the epitaxial films of gallium arsenide. The epitaxial films were grown from the vapor phase by the chloride process.

The studies demonstrated that in substrates of semiinsulating gallium arsenide strongly alloyed with tellurium, in addition to the high dislocation density ($\sim 10^8-10^9 \text{ cm}^{-2}$) there is significant density of the separations of the second phase ($\sim 10^5-10^6 \text{ cm}^{-2}$). The defect density in the epitaxial layers is 1-2 orders lower than in the substrates. The heat treatment of the substrates and the epitaxial films in arsenic vapor at 720°C leads to significant variation of the etching patterns, especially on the epitaxial layers.

The experimental data are discussed.

USSR

UDC 612.76+612.013.7]-053.7

SARKISYANTS, E. E., DOSKIN, V. A., MINNIBAYEV, T. Sh., and MARKIN, A. A.,
Chair of Hygiene of Children and Adolescents, First Moscow Medical Institute
imeni I. M. Sechenov

"Motor Activity and Daily Energy Expenditure of Students"

Moscow, Gigiyena i Sanitariya, No 11, 1972, pp 56-59

Abstract: Questionnaires and time-and-motion studies were used to analyze the daily routine of over 600 young men and women attending the First Moscow Medical Institute and Moscow Energy Institute. The students were relatively inactive 83% of the time, even during their leisure hours, which they spent mostly reading, watching television, or going to the movies. Only about 7% of all the students engaged in sports of any kind. The women were even less active than the men, the energy expenditure averaging 2290 and 3536 kcal, respectively. The students housed in dormitories tended to be more passive than those living at home. All students, male and female, became more active on Sundays possibly because the body's natural need of exercise is curbed on school days.

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USSR

UDC 612+616-0927"51"(047)

Doskin, V. A., and LAVRENT'YEVA, N. A., Hygiene Department, Central Scientific Research Laboratory, Chair of Hygiene of Children and Adolescents, First Moscow Medical Institute imeni I. M. Sechenov

"Diurnal Rhythms and Thier Role in Human Physiology and Pathology"

Moscow, Sovetskaya Meditsina, No 4, 1971, pp 67-70

Abstract: Seventy-seven sources dealing with desynchronosis and with diurnal human physiological cycles and their effects on medical phenomena are reviewed. Physiological studies cited deal with the time of maximum physiological activity, external factors (day-night cycle, biological, social) regulating diurnal rhythms, maintenance of diurnal rhythms in the absence of external stimuli, and normal physiological changes occurring over a 24-hour period (cardiovascular, hematological, hormonal, central nervous, respiratory, and urinary). Medical phenomena affected by the diurnal rhythm include parturition, wound healing, drug effectiveness, and diseases such as stenocardia, hypertonic illness, bronchial asthma, thrombosis, and myocardial infraction. Human working performance is also affected by time of day. Sometimes changes in physiological rhythms can be used to diagnose particular diseases, and as indicators of disease treatment effectiveness. Articles on the pathological and physiological effects of desynchronosis are cited.

1/1

1/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ESTERS OF PHOSPHORUS III THIO ACIDS. 9. AMIDO ESTERS OF
PHENYLTHIOPHOSPHONOUS ACID -U-
AUTHOR-(03)-RIZPOLOZHENSKIY, N.I., AKAMIN, V.D., DOSOVA, T.M.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 622-5

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--AMIDE, MERCAPTAN, ORGANIC PHOSPHORUS COMPOUND, ESTER, ORGANIC
SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/0807

STEP NO--UR/0062/70/000/003/0622/0625

CIRC ACCESSION NO--AP0124476

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0124476
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REACTION OF EQUIMOLAR AMTS. SHOWN
ON MICROFICHE. FACILITY: INST. ORG FIZ. KHIM. IM. ARBUZOVA,
KAZAN, USSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--THIOESTERS WITH TRIVALENT PHOSPHORUS -U-
AUTHOR--(03)-RIZPOLOZHENSKIY, N.I., AKAMIN, V.D., DOSOVA, T.M.
COUNTRY OF INFO--USSR
SOURCE--IZVESTIYA AKADEMII NAUK SSSR, SERIYA KHIMICHESKAYA, 1970, NR 3, PP
622-625
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--MERCAPTAN, ORGANIC PHOSPHORUS COMPOUND, PHOSPHORUS SULFIDE,
AMIDE, SELENIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3007/1318 STEP NO--UR/0062/70/000/003/0622/0625
CIRC ACCESSION NO--AP0136706
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136706

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MICROFICHE OF ABSTRACT CONTAINS GRAPHIC INFORMATION. PHENYLDICHLOROPHOSPHINE REACTS WITH ALKYL MERCAPTAINS TO FORM ALKYLTHIOPHENYLCHLOROPHOSPHINES. THE LATTER REACT WITH AMINES IN THE ABSENCE OF BASE TO FORM THIOESTERAMIDES OF PHENYLPHOSPHONOUS ACID, WHICH ARE OXIDIZED BY NITROGEN DIOXIDE TO THE CORRESPONDING PHOSPHONATE ESTERS. FACILITY: INSTITUT ORGANICHESKOY I FIZICHESKOY KHIMII IMENI A. YE. ARBUZOVA, AN SSSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--THIOESTERS WITH TRIVALENT PHOSPHORUS -U-
AUTHOR--(03)-RIZPOLOZHENSKIY, N.I., AKAMIN, V.D., DOSOVA, T.M.
COUNTRY OF INFO--USSR
SOURCE--IZVESTIYA AKADEMII NAUK SSSR, SERIYA KHIMICHESKAYA, 1970, NR 3, PP
622-625
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ORGANIC PHOSPHORUS COMPOUND, MERCAPTAN, AMIDE, ESTER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1435 STEP NO--UR/0062/70/000/003/0622/0625
CIRC ACCESSION NO--AP0136771
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136771

ABSTRACT/EXTRACT--(U) GP-0-- ABSTRACT. MICROFICHE OF ABSTRACT CONTAINS GRAPHIC INFORMATION. PHENYLDICHLOROPHOSPHINE REACTS WITH ALKYL MERCAPTAINS TO FORM ALKYLTHIOPHENYLCHLOROPHOSPHINES. THE LATTER REACT WITH AMINES IN THE ABSENCE OF BASE TO FORM THIOESTERAMIDES OF PHENYLPHOSPHONOUS ACID, WHICH ARE OXIDIZED BY NITROGEN DIOXIDE TO THE CORRESPONDING PHOSPHONATE ESTERS. FACILITY: INSTITUT ORGANICHESKOY I FIZICHESKOY KHIMII IMENI A. YE. ARBUZOVA, AN SSSR.

UNCLASSIFIED

USSR

UDC: 542.91-661.718.1

RIZPOLOZHENSKIY, N.I., AKAMSEN, V.D., DOSOVA, T.M., Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Academy of Sciences USSR

"Esters of Thioacids of Trivalent Phosphorus. Report 9. Amido Esters of Phenylthiophosphonous Acid"

Moscow, Izvestiya Akademii Nauk SSSR: Seriya Khimicheskaya, No 3, Mar 70, pp 622-625

Abstract: Continuing their investigation of the properties of trivalent phosphorus thioacid derivatives, the authors present data on the synthesis and some chemical properties of amido esters of phenylthiophosphonous acid. The esters are synthesized by the reaction of acid chloride esters of phenylthiophosphonous acid with dialkylamines. The products are oxidized by nitrogen oxides to give S-alkyldialkylamidophenylthiophosphonates. Amido esters of phenylthiophosphonous acid attach sulfur and selenium to form S-alkyldialkylamidophenyldithiophosphonates and S-alkyldialkylamidophenylthioselenophosphonates. The atomic refraction of selenium in S-alkyldialkylamidophenylthioselenophosphonates is 14.70.

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1/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--ON SOME CONSEQUENCES OF PROLONGED THIAMINE INJECTION IN THE BODY:
CHANGES IN CARBOHYDRATES PROTEINS, AND LIPIDS METABOLISM -U-
AUTHOR-(05)-OSTROVSKIY, YU.M., LUKASHIK, N.K., TREBUKHINA, R.V., DOSTA,
~~G.A.~~, MAZHUL, A.G.
COUNTRY OF INFO--USSR

SOURCE--VOПРОSY МЕДИЦИНСКОЙ ХИМИИ, 1970, VOL 16, NR 3, PP 316-322

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--THIAMINE, CARBOHYDRATE METABOLISM, PROTEIN METABOLISM, LIPID
METABOLISM, ERYTHROCYTE, ENZYME ACTIVITY, BLOOD SERUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0142

STEP NO--UR/0301/70/016/003/0316/0322

CIRC ACCESSION NO--AP0120842

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120842

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INJECTION OF THIAMINE INTO RATS AND PIGEONS DURING 1-8 MONTHS RESULTED IN THE ELEVATION OF ACTIVITY OF TRANSKETHOLASE IN ERYTHROCYTES AND PYRUVIC ACID DEHYDROGENASE IN HEART AND LIVER. AT THE SAME TIME THE DECREASE IN PHOSPHORYLASE ACTIVITY AND GLYCOGEN ACCUMULATION IN LIVER, THE INCREASE IN PLASMA ALDOOLASE AS WELL AS HEART AND MUSCLE ENZYME, GLUCOSE, 6, PHOSPHATASE IN LIVER, GLYCOGENOLYSIS IN ERYTHROCYTES, CHANGES IN PROTEIN FRACTION CONTENT IN BLOOD SERUM, CHANGES IN SH GROUPS CONTENT IN THE BRAIN AND BLOOD PLASMA, AND CHANGES IN GLUTAMATE DECARBOXYLASE IN THE BRAIN WERE OBSERVED. FACILITY: CHAIR OF BIOCHEMISTRY, MEDICAL INSTITUTE, GRODNO.

UNCLASSIFIED

USSR

UDC 539.3

DOSTANOVA, S. Kh.

"Calculation of Elastic Plates and Hollow Shells Reinforced by Ribs by the Local Variation Method"

Raschet gibkikh plastin i pologikh obolochek, podkreplennykh rebrami, metodom lokal'nykh variatsii (cf. English above), Editorial Collegium of the Journal Izv. AN KazSSR. Ser. fiz.-mat., Alma-Ata, 1972, 13 pp, ill., Manuscript deposited in VINITI, No. 4866-72, deposited 26 October 1972 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V171 DEP)

Translation: An algorithm for calculating hollow flexible ribbed shells using the local variation method is presented. An example is presented for calculating a flexible circular plate restrained along the contour and loaded by a uniformly distributed load. Expansion into trigonometric series, the coefficients of which are determined from the conditions for the stationary state of the functional, is applied as an initial approximation in calculating the shell. The initial approximation for plates corresponds to a convex surface of plates in the linear formulation. The results are close to known solutions. 6 ref. Author's abstract.

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1/2 016 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--EFFECT OF THE TYPE OF ADHESIVE AND THE MODIFICATION OF RUBBERS ON
THE BONDING STRENGTH OF RUBBER CORD SYSTEMS -U-
AUTHOR--(05)--DOSTYAN, M.S., UZINA, R.V., SHVARTS, A.G., TUMANOVA, A.I.,
FROLIKOVA, V.G.
COUNTRY OF INFO--USSR
SOURCE--KAUCH. REZINA 1970, 29(2), 29031
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--ADHESIVE, BONDING STRENGTH, METHACRYLIC ACID, RESORCINOL,
FORMALDEHYDE, CARBOXYLATE RUBBER, PYRIDINE, LATEX, CORDAGE, MOTOR
VEHICLE TIRE, STATISTIC ANALYSIS/(U)FR12 RESORCINOL FORMALDEHYDE,
(U)SKD1 CARBOXYLATE RUBBER, (U)DSVP15 VINYL PYRIDINE LATEX
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/0388 STEP NO--UR/0138/70/029/002/0029/0031
CIRC ACCESSION NO--AP0113306
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0113306

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COMPUTER ASSISTED STATISTICAL ANAL. OF A SET OF PLANNED EXPTS. GAVE THE OPTIMUM AMTS. OF MODIFIER RU-1, METHACRYLIC ACID (1), AND FR-12 (RESORCINOL HCHO RESIN) IN CARBOXYLIC LATEX SKD-1 AND LATEX DSVP-15 CONTG. VINYLPIRIDINE GROUP. THE OPTIMUM FILLER AMTS. GIVE THE HIGHEST BONDING STRENGTH BETWEEN THESE LATEXES (WHEN CURED) AND THE TIRE CARCASS CORDS. THE RESULTS ARE PRESENTED IN THE FORM OF THE REGRESSION EQUATIONS AND GRAPHS. FACILITY: NAUCH.-ISSLED. INST. SHINNOI PROM., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 669.71:620.172.251.226

VOROB'YEV, A. Z, GAVRILOVA, Ye. A, ~~DOTSENKO, A. M.~~, and YEKIMENKOV, L. N.

"On the Form of Fatigue Curves for Some Aluminum Alloys"

Moscow, Zavodskaya Laboratoriya, Volume 7, 1971, pp 832-834

Abstract: Although the initial fatigue process which terminates in the formation of macro cracks is relatively insensitive to the frequency of the applied strain, this is not true of the subsequent stage, the propagation of the cracks to destruction. In addition to frequency, other factors such as periodic overload and long-term exposure to higher temperatures were found to have different effects on the durations of the two stages in the fatigue process. In general, the equations normally used to describe the complete process of fatigue breakdown, e.g., $N (\sigma - \sigma_R)^m = \text{constant}$, describe the process of crack formation fairly accurately, but do not reflect the effect of various factors on the second process.

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USSR

UDC 582.28+632.4

DOTSENKO, A. S., All-Union Institute of Plant Protection

"Fungistatic Activity of Soil Against Verticillium Wilt of Cotton"

Leningrad, Mikologiya i Fitopatologiya, No 6, 1971, p 538

Abstract: In this paper, read before the Mycology Section of the All-Union Botanical Society (9 February 1971), the author discusses the inability of *Verticillium dahliae* Kleb. to grow in certain natural soils. Analysis of long irrigated sierozems in the Arava valley (Kirghiz SSR) showed them to have a marked fungistatic potential against this fungus. Germinated microsclerotia in sterile soil constituted 76.3 percent of the total compared with no more than 4.5 percent in nonsterile soil. Soils were also found to differ in degree of fungistatic activity. In experiments with cultivated sierozem, underlying clay and peat, the percentage of germinating microsclerotia was 3.3, 19.0, and 39.8, respectively. Fungistatic activity of soil can be weakened, neutralized, or intensified by root exudates of the host or other plants. For example, root exudates of barley, wheat, and sainfoin stimulated the germination of microsclerotia by 31.0, 15.0, and 13.6 percent, respectively. The addition of sawdust to soil decreased the percentage of germinating microsclerotia in the rhizosphere of cotton from 44.3 to 11.9.

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